Summary of Youn

The coding methods that are disclosed in Youn comprise:

1. determining whether a frame of audio information is encoded as one large window or eight small windows (col. 6 ln. 60 to col. 7 ln. 63); and

2. if small windows are used, controlling the type and grouping of the small windows (col. 7 ln. 64 to col. 8 ln. 6).

The manner in which the grouping is controlled is as follows (col. 8 ln. 7 to col. 10 ln. 46 and illustrated in Figs. 6-9):

1. Classify short windows into one of two types based on the energy of each window. (col. 8 lns. 10-16, col. 9 lns. 4-38, Fig. 7)

2. Adjust the window type where the classification is likely to be incorrect; this is done by comparing only the types of adjacent windows. (col. 8 lns. 17-36)

3. Form one or two preliminary groups of windows based on window type. (col. 8 lns. 38-42, col. 9 lns. 38-65, Fig. 8)

4. Determine whether a preliminary group is too large. If a preliminary group is too large, split it into two smaller groups. (col. 8 lns. 43-67, col. 9 ln. 66 to col. 10 ln. 46, Fig. 9)

Summary of Rationale Used to Reject Claim 1

Portions of Youn that the most recent Office Action indicates read on claim features (and are disputed by the Applicants) are shown in blue and in square brackets.

        1. A method for processing blocks of audio information arranged in frames, each block having content representing a respective time interval of audio information, wherein the method comprises:

        (a) receiving an input signal conveying the blocks of audio information;

        (b) obtaining two or more measures of quality such that: [distortion level and perceptual entropy; col. 2 lns. 6-11]

              (1) each set in a plurality of sets of groups of the blocks in a respective frame has an associated measure of quality, [short window determined based on its energy; col. 8 lns. 12-14]

              (2) each group has one or more blocks,
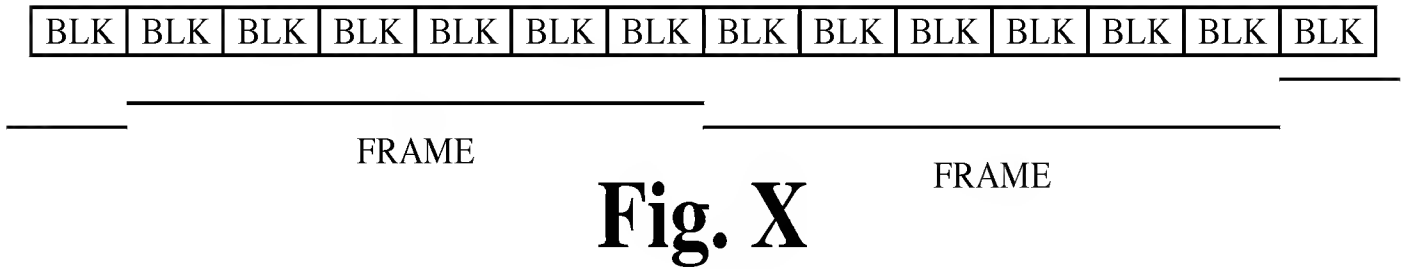
              (3) each set of groups includes all blocks in the respective frame and no block is included in more than one group in each set, and

              (4) the measure of quality represents excellence in results obtainable by processing each block in a respective group according to one or more control parameters associated with the respective group; [final grouping balances coding efficiency and sound quality; col. 8 lns. 62-65]
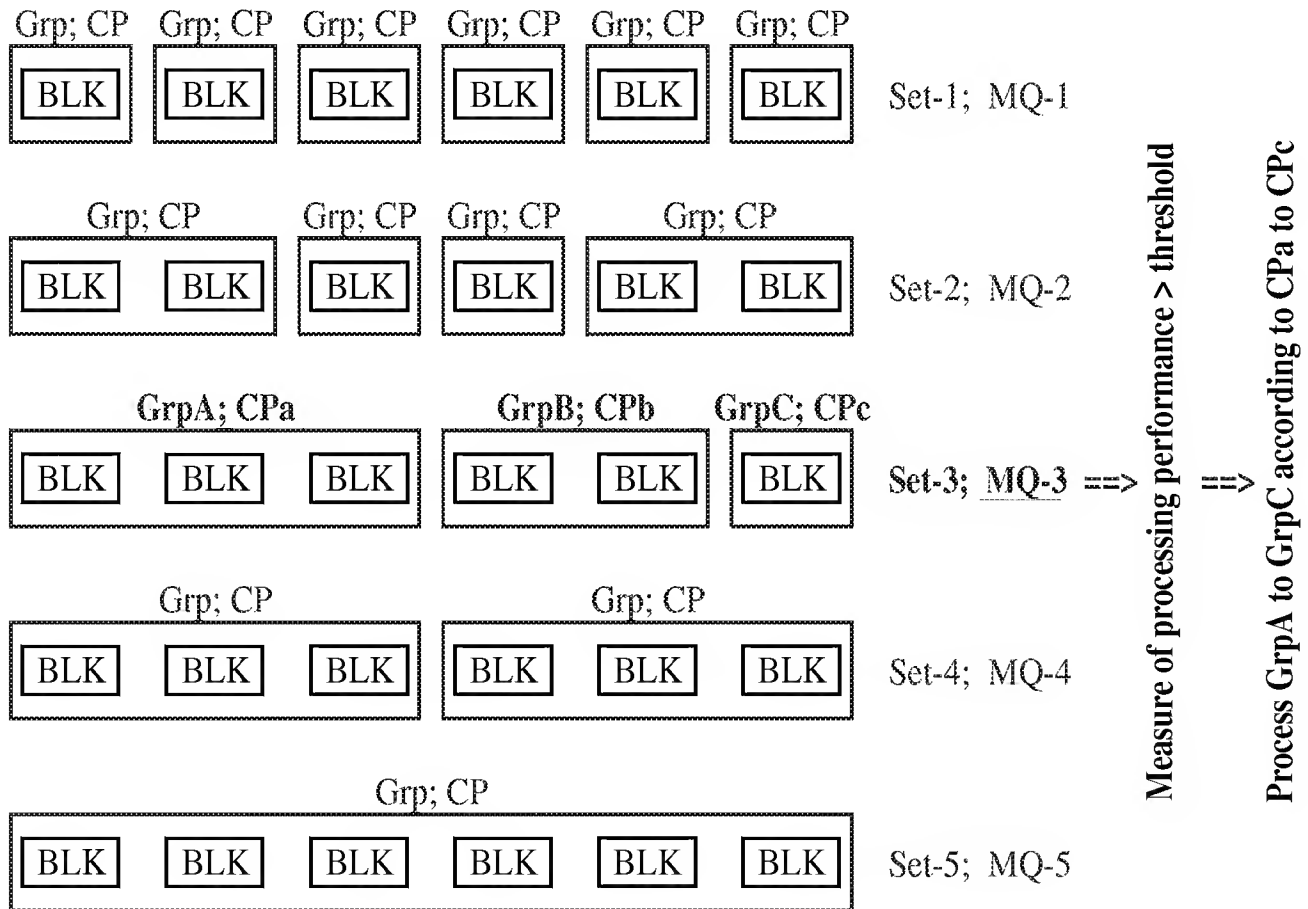
        (c) analyzing the measures of quality to identify a selected set of groups having a minimum number of groups such that a measure of processing performance obtained at least in part from the associated measure of quality is higher than a threshold; and [col. 7 lns. 33-39; col. 8 lns. 43-58]

        (d) processing each group of blocks in the selected set of groups according to the associated one or more control parameters to generate an output signal representing contents of the input signal and representing the associated control parameters for each group in the selected set. [Figs. 6, 9 and associated text]

Blocks of audio information arranged in frames

| BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK | BLK |

FRAME

FRAME

Fig. X

Sets of groups of blocks in a frame

Grp; CP Grp; CP Grp; CP Grp; CP Grp; CP Grp; CP

| BLK | | BLK | | BLK | | BLK | | BLK | | BLK | Set-1; MQ-1

Grp; CP   Grp; CP Grp; CP   Grp; CP

| BLK | BLK | | BLK | BLK | | BLK | BLK | Set-2; MQ-2

GrpA; CPa   GrpB; CPb   GrpC; CPc

| BLK | BLK | BLK | | BLK | BLK | | BLK | Set-3; MQ-3 ==>

Grp; CP   Grp; CP

| BLK | BLK | BLK | | BLK | BLK | BLK | Set-4; MQ-4

Grp; CP

| BLK | BLK | BLK | BLK | BLK | BLK | Set-5; MQ-5

Measure of processing performance > threshold ==>

Process GrpA to GrpC according to CPa to CPc

Example

BLK = encoded audio information expressed as BFP numbers (p.4 ln.25 to p.5 ln.19)
CP = processing control parameter for group; BFP exponent (p.4 ln. 30 to p.5 ln.2)
MQ = measure of processing quality; signal distortion (p.5 ln.27 to p.6 ln.32)

Fig. Y